

Remarks/Arguments

Status of Claims

Claims 1-18 are pending and claims 1-9 stand rejected, while claims 10-18 are withdrawn from consideration.

By this Amendment, claims 1-2, 4, 6 and 8-9 are amended, and claim 3 is canceled without prejudice or disclaimer.

No new matter is presented by the claim amendments, and accordingly, entry and approval of same is submitted to be proper and respectfully requested.

Rejection of Claim 2 under 35 U.S.C. §112, second paragraph

Claim 2 is rejected under 35 U.S.C. § 112, second paragraph as being indefinite.

Claim 2 has been amended to overcome this rejection.

Reconsideration is respectfully requested.

Rejections under 35 U.S.C. §102 and 35 U.S.C. §103

Claims 1 and 2 are rejected under 35 U.S.C. §102(b) as being anticipated by Japanese Patent Publication 10-340727 (hereafter referred to as "JP 727").

Claims 3-9 are rejected under 35 U.S.C. §103(a) as being unpatentable over JP 727.

Claims 1 and 3

The subject matter of claim 3 has been incorporated into claim 1 and claim 3 has been canceled without prejudice or disclaimer. Claim 1 now recites "the thickness of the current collector having been subjected to the processing step falls in a range shown by an equation $t_1 \geq t_2 \geq t_1/4$, where t_1 is a thickness of a electrode plate and t_2 is the thickness of the current collector having been subjected to the processing step." That is, the thickness (t_2) of the current collector after processing is within a ranged based on the

thickness (t1) of the electrode plate. This relationship between thicknesses (t1) and (t2) allow sufficient electric current to flow. (See present specification at page 9, lines 3-8 and Figs. 2 and 4).

In the Office Action the Examiner contends that JP 727 discloses a thickness of the current collector in the numerical ranges of 5-30 μm and 5-100 μm . However, these ranges do not correspond to the thickness (t2) of the current collector after processing (i.e., after processing a metal foil includes at least one of a plurality of concavities and convexities, thereby forming a current collector having a thickness larger than a thickness of the unprocessed metal foil), (see recitation of claim 1), but, instead, corresponds to the current collector without the processing step. Moreover, JP 727 discloses that a rise of an embossment (corresponding to the thickness t2 of the present invention) is represented by H and is preferably equal to or less than 300 μm (see JP 727 at paragraph [0046]) and that the thickness of the electrode plate (corresponding to thickness t2 of the present invention) is 250 μm (see JP 727 at paragraph [0021]). However, contrary to the present invention recited in claim 1, a thickness relationship between the thicknesses (t1) and (t2) in JP 727 is not disclosed or even suggested by JP 727.

Accordingly, JP 727 fail to disclose or suggest the above-mentioned thickness relationship feature recited in claim 1, Applicants request that the rejection of claim 1 be withdrawn.

Claims 2 and 4-5

Claims 2 and 4-5 each include all of the features of claim 1 from which they ultimately depend. Thus, claims 2 and 4-5 are also patentable over the cited art for at least the same reasons as set forth above for claim 1.

Claim 6

Applicants traverse the rejection of claim 6 and request reconsideration.

Claim 6 is directed to a method of producing electrodes for a battery and recites "applying an active material on front and back sides of the current collector using a pair of

dies such that the active material flows inside dies as well as between a tip of each die and the current collector at a shear rate of 500 (1/sec) or less." That is, by maintaining a shear rate at 500 (1/sec) or less, the viscosity of the active material is kept stable which allows for a uniform layer of the active material. (See specification at page 14, lines 3-6.)

JP 727 Reference

JP 727 discloses that "in a common production, a shear rate ... is about 1000 (1/sec), and, furthermore, that when a viscosity is 10 (Poise) or less at a shear rate of 100 (1/sec), the small holes are filled with the paste uniformly without voids and air bubbles therein and active material layers can be coated on the surface of a collector with uniform thickness ..." (See JP 727 at paragraph [0013].) That is, JP 727 does not disclose or even suggest a shear rate of 500 (1/sec) or less as recited in claim 6.

Accordingly, JP 727 fail to disclose or suggest the above-mentioned feature recited in claim 6, Applicants request that the rejection of claim 6 be withdrawn.

Claim 7

Claim 7 includes all of the features of claim 6 from which it depend. Thus, claim 7 is also patentable over the cited art for at least the same reasons as set forth above for claim 6.

Claims 8 and 9

Claims 8 and 9 includes all of the features of claim 1 or claim 6 from which they depend. Thus, claims 8 and 9 are also patentable over the cited art for at least the same reasons as set forth above for claim 1 or claim 6.

Conclusion

Accordingly, Applicants contend that the claims now pending and under consideration are in condition for allowance. Reconsideration and allowance of all claims are respectfully requested.

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Respectfully submitted,

RatnerPrestia

Daniel N. Calder

Daniel N. Calder, Reg. No. 27,424
Eric Berkowitz, Reg. No. 44,030
Attorneys for Applicants

DNC/EB/dmw

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Suite 301
P.O. Box 980
Valley Forge, PA 19482-0980
(610) 407-0700

The Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. **18-0350** of any fees associated with this communication.

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Donna M. Wellings

Donna M. Wellings

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